



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,994	02/02/2001	Kevin Eugene Dombkowski	LUC-300/Dombkowski 7-4	7453
47382 7590 12/05/2007 PATTI , HEWITT & AREZINA LLC ONE NORTH LASALLE STREET 44TH FLOOR CHICAGO, IL 60602			EXAMINER VAN HANDEL, MICHAEL P	
			ART UNIT 2623	PAPER NUMBER
			MAIL DATE 12/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/775,994	Applicant(s) DOMBKOWSKI ET AL.	
	Examiner Michael Van Handel	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 21-36 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 21-36, 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/25/2007 has been entered.

Response to Amendment

1. This action is responsive to an Amendment filed 9/25/2007. Claims **1-12, 21-36, 38** are pending. Claims **1, 11, 21, 28, 35, 38** are amended. Claims **13-20, 37** are canceled.

Response to Arguments

1. Applicant's arguments regarding claims **1, 21, and 28**, filed 9/25/2007, have been fully considered, but they are not persuasive.

Regarding claims **1, 21, and 28**, the applicant argues that neither Gummalla et al. nor Sala et al. discloses "sending one or more upstream signals as pulse code modulated data without packet headers using an upstream cable protocol, wherein at least one of the one or more upstream signals is a video signal" or "transporting downstream signals as the PCM data without packet headers over a cable media using a downstream cable protocol, wherein at least one of the downstream signals is a video signal" as currently claimed. The examiner respectfully disagrees.

Gummalla et al. discloses that the invention is not limited to voice traffic (p. 2, paragraph 35) and incorporates Sala et al. by reference. Sala et al. discloses that each cable modem 104 hosts one or more services to a subscriber. The services include telephony and video conferencing (p. 3, paragraph 43). The examiner notes that video conferencing requires both upstream and downstream video communications. As such, the examiner maintains that Gummalla et al., in view of Sala et al., discloses “sending one or more upstream signals as pulse code modulated data without packet headers using an upstream cable protocol, wherein at least one of the one or more upstream signals is a video signal” and “transporting downstream signals as the PCM data without packet headers over a cable media using a downstream cable protocol, wherein at least one of the downstream signals is a video signal,” as currently claimed.

Claim Objections

1. Claim **38** is objected to because of the following informalities:

Referring to claim **38**, the examiner notes that the phrase “the step of sending the one or more upstream signals as pulse code modulated data in a form that allows transfer to Public Switched Telephone Network (PSTN) without transcoding the pulse code modulated data of the one or more upstream signals” lacks antecedent basis. The examiner fails to find an earlier recitation of the claimed step in claim 1. The examiner recommends that the phrase be changed to “a step of ...” The examiner addresses the claim in the Office Action below as though the recommended changes have been made.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 11, the examiner notes that claim 1 recites that “at least one of the one or more upstream signals is a video signal,” while claim 11 states that “the at least one of the one or more upstream signals ... is a voice signal.” The examiner recommends that the word “the” be removed from the phrase, so that the phrase recites “at least one of the one or more upstream signals ... is a voice signal.” The examiner addresses the claim in the Office Action below as though the recommended changes have been made.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1-12** and **21-36** are rejected under 35 U.S.C. 102(e) as being anticipated by Gummalla et al. in view of Sala et al., which is incorporated in Gummalla et al. by reference (Gummalla et al. p. 1, paragraph 10).

Referring to claims **1**, **21**, and **28**, Gummalla et al. discloses a method/apparatus comprising the steps of:

- sending one or more upstream signals as pulse code modulated data without packet headers (Gummalla et al. p. 3, 4, paragraph 54) using an upstream cable protocol (using a CMTS)(Gummalla et al. p. 1, paragraph 18 & p. 2, paragraph 40), wherein at least one of the one or more upstream signals is a video signal (Gummalla et al. p. 2, paragraph 35 & Sala et al. p. 2, paragraph 23 & p. 3, paragraphs 41, 43);
- sending one or more downstream signals as pulse code modulated data without packet headers, wherein at least one of the downstream signals is a video signal (Gummalla et al. p. 3, 4, paragraph 54 & Sala et al. p. 2, paragraphs 23, 37 & p. 3, paragraph 43) using a downstream cable protocol (using a CMTS)(Gummalla et al. p. 1, paragraph 18 & p. 2, paragraph 40); and
- enclosing the one or more downstream signals as the pulse code modulated data without application-level packet headers in a Motion Pictures Experts Group (MPEG) transport (Sala et al. p. 2, paragraph 37 & p. 3, paragraph 43).

Further referring to claim **28**, Gummalla et al. discloses a sampler (CM scheduler 114) that yields PCM data (i.e. burst) and a transport device (burst multiplexer 116) that transports downstream signals (CMTS 102)(Sala et al. Fig. 1).

Referring to claims 2 and 29, Gummalla et al. discloses the method/apparatus of claims 1 and 28, respectively, wherein the upstream protocol is Data-Over-Cable System Interface Specification (DOCSIS) (Gummalla et al. p. 3, paragraphs 46, 47 & p. 4, paragraph 61)(Sala et al. p. 4, paragraph 55).

Referring to claims 3 and 30, Gummalla et al. discloses the method/apparatus of claims 1 and 28, respectively, wherein the step of sending one or more upstream signals comprises mapping one or more pulse code modulated samples of the one or more signals taken at a sampling interval to an allocation of mini-slots in the upstream protocol (Gummalla et al. p. 4, paragraphs 61-65 & p. 5, paragraphs 73, 74, 76, 80-56)(Sala et al. p. 2, paragraph 37).

Referring to claims 4 and 31, Gummalla et al. discloses the method/apparatus of claims 3 and 30, respectively, wherein the sampling interval is 125 microseconds (Gummalla et al. p. 2, paragraph 40) and the mini-slots occur at 6.25 microsecond intervals (it is inherent that mini-slots occur every 6.25 microseconds according to the DOCSIS standard)(Gummalla et al. p. 2, paragraph 37 & p. 4, paragraphs 61-65).

Referring to claims 5 and 32, Gummalla et al. discloses method/apparatus of claims 1 and 28, respectively, further comprising the step of multiplexing two or more signals in one mini-slot in the upstream protocol (bursts are assigned or allocated by mini-slots and burst multiplexer 116 multiplexes packets from two or more signals into a burst)(Sala et al. p. 2, paragraph 37; p. 3, paragraph 44; & Fig. 1).

Referring to claims 6 and 22, Gummalla et al. discloses the method of claims 1 and 21, respectively, wherein the downstream protocol is Data-Over-Cable Interface Specification (DOCSIS)(Gummalla et al. p. 2, paragraph 39 & p. 3, paragraph 46).

Referring to claims **7** and **23**, Gummalla et al. discloses the method of claims 1 and 21, respectively, wherein the step of sending one or more downstream signals comprises mapping one or more pulse code modulated samples of the one or more signals taken at a sampling interval to a Motion Pictures Experts Group (MPEG) transport layer (Sala et al. p. 2, paragraphs 37-39 & Fig. 1).

Referring to claims **8** and **24**, Gummalla et al. discloses the method of claims 1 and 21, respectively, wherein the step of sending one or more downstream signals comprises multiplexing multiple signals within a single Motion Pictures Experts Group (MPEG) packet identifier 100 (MPEG packets carried over the downstream inherently have audio, video, and voice data multiplexed into a downstream channel in which the MPEG packets share a common packet identifier according to the MPEG standard)(Sala et al. p. 2, paragraphs 37-39 & Fig. 1).

Referring to claims **9** and **36**, Gummalla et al. discloses the method/apparatus of claims 1 and 28, respectively, wherein the method is performed in a cable system having a media terminal adapter (MTA)(cable modem 104)(Gummalla et al. p. 2, paragraph 38 & Fig. 1), such that subscriber signaling functionality is reduced in the MTA (it is inherent that the associated media terminal adaptor would have decreased hardware functionality by virtue of transmitting the data without headers, thereby obtaining significant bandwidth savings)(Gummalla et al. p. 3, paragraphs 51-54).

Referring to claims **10**, **25**, and **33**, Gummalla et al. discloses the method/apparatus of claims 1, 21, and 28, respectively, wherein the method reduces throughput delay and jitter for signals, thereby improving signal quality over existing transport methods (Gummalla et al. p. 5, paragraph 93).

Referring to claims **11**, **26**, and **34**, Gummalla et al. discloses the method/apparatus of claims 1, 21, and 28, respectively, wherein at least one of the one or more upstream signals and the one or more downstream signals is a voice signal (the data exchanged between CMTS and cable modems includes text, video, audio, voice, graphics, other media, or a combination thereof)(Gummalla et al. p. 4, paragraphs 56 & Fig. 1)(Sala et al. p. 3, paragraph 43 & p. 4, paragraph 53).

Referring to claims **12**, **27**, and **35**, Gummalla et al. discloses the method/apparatus of claims 1, 21, and 28, respectively, wherein at least one of the one or more upstream signals and the one or more downstream signals is the video signal (the data exchanged between CMTS and cable modems includes text, video, audio, voice, graphics, other media, or a combination thereof)(Sala et al. p. 3, paragraph 43 & p. 4, paragraph 53).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim **38** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gummalla et al. in view of Limb et al.

Referring to claim **38**, Gummalla et al. discloses the method of claim 1. Gummalla et al. does not specifically disclose that the step of sending one or more upstream signals further comprises

a step of sending the one or more upstream signals as PCM data in a form that allows transfer to PSTN without transcoding the pulse code modulated data of the one or more upstream signals. Limb et al. discloses a step of sending one or more upstream signals that comprises sending the one or more upstream signals as PCM data in a form that allows transfer to PSTN without transcoding the pulse code modulated data of the one or more upstream signals (col. 3, l. 55-67; col. 4, l. 1-36; & Fig. 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gummalla et al. with the teaching of Limb et al., so as to facilitate communication between near end data devices (i.e., HFC network and far end PSTN 150) by just routing the PCM data using a based network router.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Van Handel whose telephone number is 571-272-5968. The examiner can normally be reached on 8:00am-5:30pm Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
09/775,994
Art Unit: 2623

Page 10

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVH


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600